

Gunboat: River Combat Simulation - Manual

Instruction Card for Amiga

Additional Credits

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A Word About This Card

The following instructions explain how to install and load Gunboat on the Amiga computer. After you load the game, please refer to the enclosed manual for specific gameplay instructions.

System Requirements

To play Gunboat, you will need the following:

- o Amiga 500, 1000, 2000 or 2500
- o 1 megabyte of memory
- o Joystick (optional)

Backup Your Game Disks!

Before you go any further, it is highly recommended that you make backup copies of your original game disks. There is no on-disk protection, so making a backup is a simple procedure. From the Workbench, follow the procedure below.

One Drive Systems

- 1 Insert the Gunboat Disk 1 into the internal drive (df0:).
- 2 Move the mouse cursor over the Disk 1 icon.
- 3 Highlight the icon by clicking the left mouse button once.
- 4 Move the mouse cursor up to the menu bar, and hold down the right mouse button to pull down the Workbench menu.
- 5 Move the mouse cursor to Duplicate and release the right mouse button.
- 6 Follow the disk swap prompts to copy the program disk.
- 7 Move the mouse cursor up to the menu bar, and hold down the right mouse button to pull down the Workbench menu.
- 8 Move the mouse cursor to Rename and release the right mouse button.
- 9 Change the name of the disk from Copy of Gunboat Disk 1 to Gunboat Disk 1.
- 10 Starting with step 1 above, repeat the same procedure with Gunboat Disk 2. At step 9, change the name of the disk from Copy of Gunboat Disk 2 to Gunboat Disk 2.

Two Drive Systems

- 1 Insert Gunboat Disk 1 into the internal drive (df0:) and a blank disk into your external drive.
- 2 Move the mouse cursor to the Disk 1 icon and hold down the left mouse button.
- 3 Drag the mouse cursor over the icon of the blank disk and release the mouse button.
- 4 Follow the prompts to complete the copy procedure.
- 5 Move the mouse cursor up to the menu bar, and hold down the right mouse button to pull down the Workbench menu.
- 6 Move the mouse cursor to Rename and release the right mouse button.
- 7 Change the name of the disk from Copy of Gunboat Disk 1 to Gunboat Disk 1.
- 8 Starting with step 1 above, repeat the same procedure with Gunboat Disk 2. At step 7, change the name of the disk from Copy of Gunboat Disk 2 to Gunboat Disk 2.

Be sure to store the originals in a safe, dry place, and use the copies when playing or installing the game.

Warning! Never remove a disk from a disk drive if the drive light is still on! You may render that disk unusable in the future.

Hard Drive Installation

To install Gunboat onto your hard drive, do the following:

- 1 Load Workbench as you normally would.
- 2 Double-click on the Workbench icon.
- 3 Click on the drawer labelled EMPTY to highlight it.
- 4 Move the mouse cursor up to the menu bar, and hold down the right mouse button to pull down the Workbench menu.
- 5 Move the mouse cursor to Duplicate and release the right mouse button.
- 6 Click on the new drawer labelled Copy of EMPTY.
- 7 Move the mouse cursor up to the menu bar, and hold down the right mouse button to pull down the Workbench menu.
- 8 Move the mouse cursor to Rename and release the right mouse button.
- 9 Change the name of the new drawer from Copy of EMPTY to Gunboat.
- 10 Double-click on the CLI or Shell icon to enter the Shell.
- 11 Change to the hard drive where you want to install Gunboat by typing `cd dh0:` (or `dh1:`, or `dh2:`, etc.) and press RETURN.
- 12 Change to the Gunboat directory by typing `cd gunboat`.
- 13 Place your Gunboat Disk 1 diskette into df0:.

- 14 Type `copy df0: dh0:gunboat ALL` and press RETURN. (If your hard drive is `dh1:`, or `dh2:`, etc., then type `dh1:` or `dh2:` etc., instead of `dh0:`).
- 15 Replace your Gunboat Disk 1 diskette with your Gunboat Disk 2 diskette in your disk drive and repeat step 6.
- 16 When the installation is complete, the CLI prompt appears. Then type `ENDCLI` and press RETURN. You are now back to the Workbench.

To play Gunboat, follow steps 3 - 6 in the "Starting the Game From a Hard Drive" section found next.

Starting the Game From a Hard Drive

- 1 Load Workbench as you normally would.
- 2 Double-click on the hard drive where you have installed Gunboat.
- 3 Open the Gunboat drawer by double-clicking on it.
- 4 Double-click on the Gunboat icon to start the game.

Starting the Game from Floppy Disks

- 1 With your computer off, insert Gunboat Disk 1 into `df0:`.
- 2 Plug a joystick into port 2 if you are going to be using a joystick.
- 3 Turn on the computer. The program will load automatically.
- 4 When prompted, insert Gunboat Disk 2 into `df0:` (Dual drive users may insert Gunboat Disk 2 into the external drive to reduce disk swaps.)

Or (from Workbench):

- 1 Plug a joystick into port 2 if you are going to be using a joystick.
- 2 Load Workbench as you normally would.
- 3 Insert Gunboat Disk 1 into `DF0:`
- 4 Double click on the Gunboat Disk 1 icon to open it.
- 5 Double click on the Gunboat icon in the newly opened window to start the game.
- 6 When prompted, insert the Gunboat Disk 2 into `DF0:`. (Dual drive users may insert Gunboat Disk 2 into the external drive to reduce disk swaps.)

Note: Be sure you are inserting the correct disk when prompted.

Activating the Joystick

If you are using a joystick to control the action in Gunboat, you'll need to press `Ctrl + J` simultaneously to activate it. (Be sure that the joystick is plugged into port 2.) This can be done at anytime during the game. Hitting `Ctrl + J` a second time will deactivate the joystick. The keyboard remains active in either mode.

GUNBOAT
RIVER COMBAT SIMULATION
Manual for Amiga

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Faster Than a Speeding PBR

San Francisco Bay glittered under the summer sun as the PBR Mark III turned away from Mare Island a cut a long, smooth wake over the northeastern sloughs. From his perch in the bow gunner's turret, Tom Loughry took in the full 270-degree view of crystal clear California sky overhead, and watched a pair of great blue herons rise from the rushes along the near shore. They looked almost close enough to touch. He smiled and settled back as the boat picked up to 30 knots. In his hyperactive imagination, the spark of idea ignited, and caught fire.

Loughry was riding high in more ways than one that bright May day. His last entertainment program, the Steel Thunder tank simulation, had just been nominated for Best Simulation Program of 1988 by the Software Publisher's Association - the equivalent of being nominated for an Oscar in software. Accolade Producer Sam Nelson was after to him to create another hit - soon. Steel Thunder had offered simulation fans a degree of immediacy and realism that hadn't been seen anywhere before, and Tom knew that Steel Thunder's program engine had the potential to drive a great naval combat simulation. That afternoon, he also knew that he'd found his boat.

Page 2 follows:

In Search of the PBR

"I'd been investigating different kinds of boats for awhile," Loughry remembers. "I first looked at big ships like the high-tech Ticonderoga-class cruisers. But big ships usually pitch battles at distances of over 100 miles, hurling missiles and planes you can't see against an enemy you can't see. I was looking for something with an almost visceral immediacy, and that wasn't it. So I looked at small craft, which led me right away to the PBR - 'Patrol Boat, River' - that the Navy developed for use in Vietnam. The high-speed boats and close-combat tactics were exactly what the Steel Thunder engine was built to handle, and I started to get excited. Then I learned that PBRs are still around - and that their main training center is at Mare Island, only two hours from home. So Roseann Mitchell, (Accolade's graphics and animation chief), Sam Nelson (Accolade Producer for the project) and I went up there to take a closer look."

For all three, the PBR was the ride of a lifetime. "At one point, the pilot yelled, 'Hang on!,' and spun the boat around in a full-speed U-turn," remembers Loughry. "Roseann held on with only one hand, and lost her grip in the force of the turn. She would have gone over the side if she hadn't run into me first. We'd turned 180 degrees in less than one boat length, at a speed of nearly 30 mph. It was brutal."

Loughry spent several hours that day checking out the PBR's systems and capabilities. The Mare Island crew showed him how to pilot the boat, running it in figure 8s and donuts in water in less than two feet deep. And then there were the guns.

"Sitting in the bow gunner's turret is like hanging off a 100-foot pole off the front of the boat. You're out there in this lightly armored cubbyhole with nothing but open sky in front of you. There's not even a real seat: you sit on this strap, suspended over the bare hull, with water sloshing around under your feet. It feels really dangerous. Not that the other situations are any more

Page 3 follows:

cozy: when you're standing at the stern gun and the boat is underway, your feet are considerably below the water line, and the gun rises just above it. And the midship gunner stands up on top of the engine compartment, between two steel plates that are only about waist high

-
another vulnerable position. All in all, the most comfortable place on the boat is the cabin: there's no seat, but at least you're inside armored walls that come up to your nose."

Setting the Scene

PBR warfare was a central plot element in the movie *Apocalypse Now*, so Loughry figures people who've seen the movie will have a pretty good sense of what PBR combat is like - "the suspense of not knowing what's around the bend, and the intense immediacy of battle." Vietnam was a natural starting scenario, because that's where the U.S. Navy first discovered and perfected modern riverine warfare.

"Panama was a natural, too, given its instability," Loughry notes. "I discovered some months before the recent invasion that there were U.S. PBRs stationed down there, and so I put that into the simulation. I had no way of knowing how timely these scenarios were going to become. Colombia is another unstable situation, but the scenarios there are more of a fantasy. There aren't any

PBR units down there that I'm aware of - but if we ever got involved, they'd probably be among the first Navy forces to go in."

Blood & Guts

The up-close-and-personal nature of the combat scenes in Gunboat posed an ethical dilemma - not only for Loughry, but for several other members of the development staff. Most mainstream combat simulations draw the line at showing dead bodies and blood. After plenty of long, lively discussions, it was decided to take Gunboat through that line, for some important reasons.

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Blood & Guts (continued)

"I don't think computer games should show gratuitous levels of blood and gore." Loughry is emphatic. "On the other hand, simulations are designed to communicate some level of reality, and unfortunately, dead and wounded people are the reality of war. Most combat games encourage people to think of war in terms of detached explosions, which is a serious misconception. A couple of times, I started to take the gross parts out - but in the end, I left them in. War seems to have its place in the world, and I'd rather have people take their aggressions out on computer games than on each other."

Wild Times

One of the Gunboat scenarios includes falling rubble from a 7.1 earthquake. "It's really hidden, so most people will probably never find it... but it's there," Loughry insists. The rockpile is a tribute to the October 17, 1989 Loma Prieta earthquake, which was centered less than 10 miles from Loughry's Santa Cruz mountain home. "Like everyone else in the Bay Area, I had trouble concentrating on my work for a month or so afterward, especially with the almost continual aftershocks rocking my office. It seemed natural to include some sort of monument to the quake, since it was an important factor in Gunboat's development process."

From that wild spring cruise, through an autumn of wild arguments, wild earth movements, wild political developments, and a wild pace that would have exhausted almost any other programmer (but seems to come naturally to Loughry), it follows that the final result would be the wildest naval combat simulation ever launched on a personal computer.

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Section 1: Startup

How To Load Gunboat (see Instruction Card for Amiga)

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Quick Start

The following instructions are designed to take you quickly through Gunboat's startup procedures. Follow these steps, and in just a few minutes, you'll be out on the water, on your way your first mission.

- o If you want to know more about equipment, armament, tactics, or any phase of your Gunboat mission, turn to the appropriate section

of this manual.

- o As a general rule, you can press Enter or the Space Bar to move through the initial setup screens. The resulting scenario will be based on default options.

1 Follow the instructions in the "How to Load Gunboat" section above to reach the Main Menu screen. Use the joystick or arrow keys to select Report For Duty, and press the joystick button or Enter.

2 When the sentry confronts you, refer to the Gunboat codewheel.

Line

up the boat's class name (outer wheel), type (middle wheel), and designation letters (inner wheel); and enter the answer that appears

in the window of the codewheel corresponding to the question.

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Combat Maneuvers

Here are a few of the basic command sequences you'll need to run the boat and keep yourself out of trouble:

PBR Startup Sequence

- 1 Press X to go to Pilot's Station
- 2 Press F1 to turn on the Main Power
- 3 Press F2 to turn on the engines
- 4 Press V to move to the Bow (front) Gunner's station
- 5 Press F1 to turn on the master power for the bow guns
- 6 Press F2 to remove the safeties from the bow guns
- 7 Press F3 (optional) to turn on the spotlight
- 8 Press B to move to the Midship Gunner's station
- 9 Press F1 to turn on the master power for the midship gun
- 10 Press F2 to remove the safety from the midship gun
- 11 Press F3 (optional) to turn on the spotlight
- 12 Press N to move to the Stern (rear) Gunner's station
- 13 Press F1 to turn on the master power for the stern gun
- 14 Press F2 to remove the safety from the stern gun
- 15 Press F3 (optional) to turn on the spotlight

All your PBR's systems are now on, and you're ready to go.

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To Control the Gunboat From the Pilot's Station

From the Pilot's Station, use the following commands to change the speed and direction of the boat:

Up arrow/joystick forward	Throttle forward
Down arrow/joystick back	Throttle back (use this to move into reverse and back up)
ENTER/joystick button	Slow down
Left arrow/joystick left	Turn left
Right arrow/joystick right	Turn right

To Control the Boat from Any Gunners Station

From any of the three gunners' stations, use the following commands to change the speed and direction of the boat:

- F4 Reverse Course
- F5 Branch left at the upcoming fork in the river or river mouth
- F6 Branch right at the upcoming fork in the river or river mouth
- F7 Slow down
- F8 Speed up

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Fire on the Enemy from the Pilot's Station

When a possible target appears in your window:

- 1 Center the target in front of the boat, and press F9 to request a target ID. (This is important: firing on friendly forces is the quickest known route to a court-martial. Your computer gunners won't fire on friendly targets.)
- 2 Press F10 to order the computerized gunners to open fire on all enemy targets. Press F10 again to order them to cease fire.

Fire on the Enemy from a Gunner's Station

To fire on a target from any of the three gunners' stations:

- 1 Go to the station that gives you the best clear shot at the target - and the best weapon to destroy it. To do this, press:
 - V Front (bow) station
 - B Midship station
 - N Stern (rear) station
- 2 Use the joystick or arrow keys to aim your guns at the target.
- 3 Press and hold the Enter key or joystick button to release a burst of fire.
- 4 Press F10 to request additional fire from the other gunners' stations. The computer automatically identifies the enemy, takes aim, and fires from these stations. Press F10 again to order the other stations to cease fire.

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Section 2:

At Dockside: Taking Command

This section contains specific information on preparing your PBR and crew for battle. It includes instructions for PBR practice drills, dealing with base security and administrative paperwork, choosing your mission, equipping your boat, and taking command of your crew. The Admiral recommends that you review it carefully to thoroughly familiarize yourself with PBR operations.

Demonstration Mode

The Gunboat Demonstration Mode is essentially a short hands-off mission sequence that lets you see what the simulation looks like.

To enter the Demo Mode, load Gunboat. When the Main Menu Screen appears, press D on your keyboard. The mission sequence demo repeats itself in a continuous loop until you press any key to end it and

return to the Main Menu Screen. Gunboat will also enter Demo Mode automatically from the Main Menu Screen after approximately 30 seconds if no key is pressed.

To run the demo without the sound effects, press S before you enter the demo mode.

Practice Mode

Gunboat offers three hands-on Practice Modes that are accessible from the Main Menu Screen. The Practice Mode is actually three different drills, each designed so you can master one of the three most critical PBR combat skills: operating the guns, firing grenades, or piloting the boat.

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- o To enter Practice Mode, load the Gunboat simulation, following the instructions in Section 1. From the Main Menu screen, rotate the joystick or use the arrow keys to highlight the type of practice you want, then press the joystick button or Enter to select.
- o To leave a Practice Mode and return to the Main Menu Screen, press the Tab key at any point during your drill.

When you enter a Practice Mode, everything's already turned on and ready to go. In each drill, there is no set mission objective, no scoring, and no damage inflicted on your boat - though the computer keeps track of the damage you inflict on your targets. Here's how each mode works:

Gunnery Practice

You're the forward gunner, in place and ready at the bow of the boat. Your drill is simply to return fire on any and all enemy targets. Use the arrow keys or joystick to aim your guns; and press Enter or the joystick button to fire. Other commands include:

- Change Slew Rate - This three-way toggle controls how fast the gun mount turns in response to your joystick or arrow key commands. Press once to make slow turns, a second time to make even slower turns, a third time to speed up the slew rate again.

F9 Identify Target - Press this to find out more about the target directly in front of you.

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Grenade Practice

You're the center gunner, located in the middle of the boat along with the M129 automatic grenade launcher. You can send down a hail of grenades on anything with impunity. The practice commands at this station are identical to those used in Gunnery Practice mode described above - though picking off targets with the slower-firing grenade launcher is considerably different than using a smaller gun with a higher rate of fire.

Pilot Practice

You're at the helm, refining your navigation skills and getting the feel of the boat. The practice runs are conducted in and around Mare Island, California, the Navy's West Coast PBR base. As you cruise the meandering riverways, experiment with the following commands:

- Steering Slew Rate - A three-way toggle that controls how fast the water jets rotate in response to your joystick or arrow key commands. - and thus, how fast you turn. Press once to make slow turns, a second time to make even slower turns, and a third time to take full, fast advantage of your boat's 30-foot turning radius.

Z Pilot's port (left) station and view

X Pilot's center station and view

C Pilot's starboard (right) station and view

F9 Identify Target

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Use the following commands to change the speed and direction of the boat:

Up arrow/joystick forward	Throttle forward
Down arrow/joystick back	Throttle back (use this to move into reverse and back up)
Enter/joystick button	Slow down
Left arrow/joystick left	Turn left (rotate water jets left)
Right arrow/joystick right	Turn right (rotate water jets right)

The light blue stuff behind you in the water is your own wake - or someone else's. To sharpen your skills, try drawing a perfect figure 8 with your wake.

Report For Duty

If you're ready to bypass Practice Mode and get down to business, go to the Main Menu Screen and select Report For Duty.

Security

You must gain entry to the field operations center and pick up your orders before you're allowed to go cruising around in hostile waters. At the base's main gate, a sentry interrogates you. You can either draw on your extensive knowledge of the scores of vessel types comprising the U.S. Naval forces; or you can refer to the enclosed Gunboat codewheel to get the information he wants.

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Identify Yourself

PBR units are often assigned to LSTs (Landing Ship, Tank) - large maintenance ships anchored offshore, which serve as a kind of mobile home port. Your encounters with the Admiral occur on the bridge of your unit's LST. At the beginning of each mission, the Admiral first requests that you identify yourself.

If you want to review your glorious career, or find out who else is bucking for promotion, press F1 to view the PBR Commanders' File.

All

the current PBR officers are listed here (up to 14 on a disk), with their individual battle stats, rank, medals, and commendations. This information is updated automatically after each mission. Move the joystick up or down or press the Up and Down arrow keys to cycle through these records.

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Press F1 again to return to the bridge. To identify yourself, simply type your name (don't bother with the rank: the Admiral sees your stripes very clearly), and press Enter.

NOTE: The admiral tends to be a little impatient with new recruits. Besides being quick on his feet and a keen thinker, he's usually extremely busy - which brings out his nasty temper. Don't make the mistake of keeping him waiting around while you dream up answers to his questions. Efficiency counts.

If you're already listed in the personnel file, the Admiral welcomes you. If you're cleared for combat in more than one theatre, he asks you to select the region in which you want to serve. (Your choices increase along with your rank and experience.) Use the joystick or the arrow keys to select your region, and press Enter.

If you're new to the riverine units, the Admiral asks: "How should I update my roster?" This is your opportunity to add or change the information in the PBR Commanders' File. Use the joystick or arrow key to select one of the following options:

- o ADD Add a new PBR captain's name to the list
- o REPLACE Replace one name with another
- o REDO Return to the Bridge (If you made a mistake, you can start over again from here.)

Press F1 to view the Personnel Files again, if you want. Press F1 again to return to the roster update menu. When all the information in the PBR Commanders' File is correct, press Enter or the joystick button to move on.

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Choose Your Mission

You gain rank and earn medals by completing missions. Every mission you undertake has a corresponding promotion rank. If you complete the mission successfully, you are automatically promoted to that rank.

The Admiral can offer you assignments in one of three areas, depending on your previous experience and achievements. For your first several missions, he assigns you to Vietnam - the birthplace of modern riverine warfare. Once you're promoted to Second Lieutenant, you have the opportunity to battle vicious drug lords and cocaine smugglers in Colombia. Only the elite PBR captains - those who've reached the rank of Lieutenant Commander or above - are entrusted with the politically sensitive missions that keep clear the Panama Canal Zone.

Once you've been assigned to a particular battlefield, the Admiral

outlines the current missions. You can choose from between 2 and 8 missions, depending on your experience. Use the joystick or the Up or Down arrow keys to cycle through the assignment files. In each file, you can:

- o Read a brief description of the mission.
- o Press F2 to view the map of the mission area. The arrow points to your primary mission target. Press the arrow keys to show maps associated with other missions. Press F3 to return to the assignment file that corresponds with the map you are viewing.
- o Press F4 to view boat and weapons specifications. Use the joystick or the Up or Down arrow keys to cycle through the information screens. Press F3 to return to the assignment file.
- o Press Enter to accept the mission.

The first mission of each scenario is a practice mission in which you are invulnerable to enemy fire. This helps you get the lay of the land, and familiarize yourself with the enemy's positions and armament.

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Arm Your Boat

The next step is to equip your PBR with the right engine and armament for this particular mission.

From the PBR Outfitting Screen, you can press F4 to get more detailed data on the engines and guns at your disposal. Use the joystick or the

Up and Down arrow keys to cycle through the information. (For even more in-depth information on these options, refer to Section 4/ Equipment Reference.) To return to the PBR Outfitting Screen, press F3.

Move the joystick or use the arrow keys to move up and down the list of engine and gun options. To choose one of the options, press Enter or the joystick button.

Fortunately, the ammunition supply for these guns isn't an issue when you're in combat: fuel and ammo are your only cargo, and the boat holds

several days' worth of ammo. Remember, however, that your abundant ammo stores are a major attraction for the guerillas who inhabit these rivers: they will pursue you enthusiastically and kill you quite cheerfully to take possession of them.

About Your Crew

In the real world, U.S. Navy PBRs typically carry a crew of four: a first-class petty officer who serves as boat captain and pilot; a gunner's mate, who controls the forward guns; an engineman, who takes care of the engines and serves as midship gunner; and a seaman who controls the aft guns. All four are crosstrained in each other's tasks - a redundancy that becomes crucial if one or two crew members are wounded.

The four crew positions in the Gunboat simulation correspond to each of the positions mentioned above. Your Gunboat crew includes:

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About Your Crew (continued)

- o The Pilot, who controls the boat's course and speed
- o The Bow Gunner, who fires the twin M2HB .50 caliber or single .30 caliber Minigun mounted on the front of the boat
- o The Engineman/Midship Gunner, who handles the grenade launcher or machine gun mounted in the middle of the boat
- o The Stern Gunner, who fires the gun mounted in the stern of the boat.

As a Gunboat captain, it's your job to make tactical decisions, and see to it that your gunners and pilot interact effectively under fire.

The next chapter contains more information about each station's operations and capabilities.

Once you've selected your assignment and armed your boat, your boat is fully staffed and equipped. The Admiral sends you off with a few parting words. When you press Enter for the last time, you're in the pilot's seat, ready to shove off from the dock.

Anchors aweigh!

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Section 3 : Brown Water Warfare: Gunboat Systems & Procedures

This section covers the systems and procedures for navigating your PBR, commanding your crew, operating the four onboard battle stations, and engaging the enemy in combat - in short, everything you need to know to complete your assigned mission, from the time you leave the dock until the time you return.

Every system on board your PBR is monitored and controlled from one or more of the four crew stations. Each station is accurately modeled after the actual stations on the PBR Mark III boats currently in use by the U.S. Navy.

Your primary role is that of PBR captain. When you're at the Pilot's Station, the computerized gunners stand by at their stations, awaiting your order to fire. As you become familiar with all the systems and commands used in running and navigating the boat, you can rely less on your computerized gunners, and move from station to station yourself, operating the guns manually while issuing commands to the computerized pilot at the helm.

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General Commands

These commands are generally available to you at any point during the simulation:

- | | |
|--------|--|
| ESC | Pause Action/Resume Action |
| S | Sounds On/Off - Allows you to run the game without the music, engine sounds, or battle noises. |
| CTRL Q | Exit to DOS |
| Z | Move to the Pilot's Port (left) View Screen |
| X | Move to the Pilot's Main (center) View Screen |
| C | Move to the Pilot's Starboard (right) View Screen |
| V | Move to the Bow (front) Gunner's Station |
| B | Move to the Midship Gunner's Station |
| N | Move to the Stern (rear) Gunner's Station |
| E | Engine Sound On/Off - The PBRs huge engines are pretty noisy, especially when you're moving fast. If the roar bothers your concentration, turn it off. |

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- | | |
|-----|---|
| D | Detail Level Low/Hi - Reduces the level of simulation detail for added speed on slower machines. |
| TAB | Return to Base - When the carnage gets extreme, or the mission's over, this is how you get home again. |
| M | Mission Map - Get an overview of your position, and the surrounding area. The maps are based on actual maps of Vietnam, the riverways of Colombia, and the Panama Canal Zone. The Practice Mode maps shows the sloughs and rivers of the northeastern San Francisco Bay, where the U.S. Navy's Mare Island PBR training center and operations base are located. |

Watch the map carefully when you know that there's an upcoming fork in the river, so you'll be ready to give the computer pilot the right directions when the time comes. Two marks appear on the map to help you keep your bearings:

- o A flashing arrow indicates your approximate destination
- o A flashing dot and crosshairs show your current position.

The action temporarily pauses while you refer to this screen:

- | | |
|---|---|
| , | Chase Boat View Screen - The top of the screen shows what your boat would look like from a chase boat following along behind you. Use the joystick or arrow keys to move around and get different perspectives on your PBR. |
|---|---|

The lower part of the screen summarizes how many enemy targets you've

destroyed so far in the course of this mission.

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General Commands (continued)

NOTE: Don't get too caught up in watching your boat dance gracefully over the waves, or gloating over your kill rate so far. While you're in the Chase Boat, your PBR is in the hands of your computer pilot (who is none too bright), and your gunners hold their fire. Unfortunately, the enemy continues about its ugly business in your absence, and you run the risk of returning to a dead boat with a deader crew.

. Assignment Review - After the ninth or tenth tough firefight of the day, you may start wondering why you ventured out here in the first place. It might help to take another look at your mission orders, and refresh your memory. The action pauses while you look at this screen.

/ Damage Report Screen - A status summary of your PBR's crew and operating systems. When you're under heavy fire, check the Damage Report Screen frequently to find out at a glance which systems you can still use, and how your crew is doing. The action pauses while you look at this screen.

Because your PBR is fairly well armored, small-caliber bullets fired on your hull won't slow you down much - though a few well-placed enemy .50 caliber machine gun rounds can do some real damage to exposed crew members, radar and spotlights. You can't repair anything on board while you're in enemy waters: if you take a hard hit, run aground, get stuck, or lose your engines, use any resources you have left to blow away as many of your attackers as you can - and then press Tab to abandon your boat and Return to Base.

Page 25 follows:

NOTE: The status of your PBR's Bilge Pumps is included on your Damage Report Screen and will normally indicate that they are OFF. They automatically come ON when you sustain hull damage. If you sustain enough hull damage, the bilge pumps will not remove water as fast as the water pours in, and you will sink.

= Time Compression - If you want to speed things up a little on your way to the front, press this three-way toggle key once. To speed them up even more, press twice - and hold onto your stomach. Because time compression also speeds up the enemy's thinking processes and response rate, press it a third time when you suspect that enemy forces are nearby, or find yourself under fire. This turns off the Time Compression entirely.

If you have a slow-running computer, you may want to fight the entire mission with the time compression turned on.

Backspace Extra Time Compression - When you find yourself in a long, quiet stretch - or a very big hurry - hold down this key to get maximum time compression. To slow down again, just release the Backspace key.

F9 Identify Target - When you have a potential target in view, you can ask for identification. (To get a clearer idea of what kinds of targets you might encounter, turn to Section 5.)
Use this command often: shooting at friendlies is one of the better ways to get yourself court-martialed, so this is your insurance of continued job security.

Be sure that the target is lined up directly in front of the boat or in your gunsight before you press F9. This key identifies the closest interesting looking target in the area dead ahead.

Page 26 follows:

The Pilot's Station

The helm is the central control station for the entire boat, where all the mechanical and navigational systems are located. As captain, you may spend a fair amount of time here: your ultimate success largely depends on your competence at managing this station. To reach the Pilot's Station at any time, press X.

When you're at the Pilot's Station, the PBR is under your manual control. The pilot is assumed to be the captain of the boat (that's you), so when the pilot dies, the mission is over.

The Pilot's Station includes three view screens. Together, they give you a nearly 270-degree view of the horizon, plus access to all your controls. To view these three screens, press:

- C to view the right-hand panel
- X to view the center panel
- Z to view the left- hand panel

Keyboard Commands

The following commands can be executed any time you're at the Pilot's Station. All of the corresponding gauges and indicators are located on the center panel - with the exception of the radar screen, which is on the right.

F1 Master Power On/Off - The PBR's main power switch. Turn it on to power up the boat. Turn it off, and every powered system on the boat quits.

Page 27 follows:

F2 Engine Power On/Off - Powers up the engines. They take a few seconds to warm up.

F3 Radar - The radar display maps the nearby coastline, along with vehicles, boats, surfacing mines, anything else

that's

optional,

nearby and interesting. Use of radar is strictly

you may find it useful for "seeing" around corners - and indispensable for getting around at night. The Raytheon 1900/W unit is surface-scanning, and doesn't include sonar, so don't count on it to tell you about underwater obstacles.

F9 Identify Target - Gives you a positive ID on any potential target that's directly in front of the boat.

F10 Open Fire/Cease Fire - Press F10 to order the gunners to open fire on a nearby target. The gunners who are in the best position to get a clear shot respond immediately.

This

move

command does not fire the mortars: to do that, you must to the stern gunner's station. To cease fire, press F10 again.

ENTER Throttle Neutral - Moves the throttle into neutral. Each time you press Enter, the boat slows down a little, until it eventually stops it dead in the water. The throttle stick on the helm comes to rest in a neutral position.

Up Arrow/Joystick Forward

Throttle Forward - increases power to the water jets, propelling the boat forward. Press ENTER or pull back on the joystick to slow down. The throttle levers at the right of the screen move up as you accelerate, and the RPM gauges indicate how much power you're getting out of the engines.

Page 28 follows:

Down Arrow/Joystick Back

Throttle Back - This command drops deflectors down behind each of your two jets, reversing the thrust and effectively putting you in reverse. If you're moving forward when you first throttle back, the RPMs drop down to zero as you slow down, then pick up again as you begin to move backward. The throttle levers at the right of the center view screen move down as you back up.

NOTE: The twin engines (especially the big 450-horse-power ones) can create a lot of racket when they're running wide open. In situations where stealth is more important than speed, slow down until you're under the halfway point on the RPM gauges. Running under the full-throttle mark quiets the boat down considerably.

Left Arrow/Joystick Left; Right Arrow/ Joystick
Right Turn Left/Turn Right

These commands rotate the water jets, causing you to turn left or right. If you lose one of the two engines or jets, the boat becomes much harder to steer, and may not respond to your attempts to control it. The steering wheel on the

center panel moves in response to your turning commands.

- Slew Rate - This three-way toggle controls how fast the
water jets turn in response to your commands. Press the minus
key once to make slow turns, a second time to make slower
turns, and a third time to speed up again. The Slew Rate knob on
the center panel shows you current slew rate setting.

Page 29 follows:

Gauges & Indicators

The Pilot's Station includes a collection of gauges and indicator lights that can give you a great deal of important information about your PBR's systems. They include:

RPM Gauges - One for each engine. They work in both forward and reverse. RPM is a measure of power output, not speed, so don't depend on these as speedometers.

Fuel Gauges - Each of the two engines has its own separate fuel tank; these gauges show how much fuel you have left in each tank. You can't transfer fuel from one tank to the other; if you lose one tank in combat, or just run out of gas, that engine is dead for the rest of the mission.

Page 30 follows:

Gauges & Indicators (continued)

Water Jet Direction Indicator - The PBR doesn't use rudders to turn; instead, the water jets swivel around, causing the boat to turn left or right. The pointer in this bar shows which way each water jet is trying to point - though whether or not you actually make the turn depends on the condition of your engines and jets, and what's in the water. If your jets get damaged or you lose engine power, the Direction Indicator's accuracy can't be trusted.

Engine Status Light - These lights are located right above the power switches for each engine. As long as the light is green, the engine is fine; when it flashes red, that engine is history.

Compass - Like any computerized compass, this one expresses your heading as a number between zero and 360 degrees. North is zero; east is 90 degrees; south is 180 degrees; and west is 270 degrees.

Clock - Like any other clock.

Time Compression Indicator - For a full explanation of time compression, see page 25 above. This gauge shows which of the three Time Compression settings you're currently using.

Slew Rate Indicator - The Slew Rate is discussed in the Keyboard Command section on the previous page. This knob shows which of the three Slew Rate settings you're currently using.

Computer Pilot

When you leave the pilot's station, the computer pilot takes over.

Before you leave the helm in his hands, there are a few things you need to understand about this guy.

Page 31 follows:

With a little help from a friend in the base records department, we recently got an unauthorized look at his service record. And all we can tell you is; watch him closely. It's not that you can't trust him (although you may sometimes wonder if he's on the enemy payroll - and in Colombia, your suspicion might be justified); it's just that he's got the decision-making capabilities of your average opossum. According to the commanders who've been stuck with him before, there are some specific situations where he's next to useless:

- o While you're off attending to other business on the boat, he does his level best to figure out what your course is, and hold to it. But he can't read maps, and the Mission Map looks as tangled to him as the LA freeway system does to the rest of us. When he comes to a fork in the river, or heads toward a coastline, he may remember your previous instructions to branch right or left or he may forget, and make the decision all by himself. Keep a close eye on him
- and the map - so you can correct his course before he steers you straight into downtown Phnom Penh.
- o After several years in the Navy, he finally got the general idea that the best course to take in most rivers is straight down the middle, in the deep water, and well away from shore-bound enemies; and that the thing to do with coastlines is to follow them. (The brass, recognizing this as true progress, promptly promoted him.) But he still forgets sometimes, and has been known to run boats aground. He's especially shaky booming through narrow canyons at high speeds, so it's best if you take over before he drives the PBR straight into a sheer rock wall.

Page 32 follows:

Computer Pilot (continued)

- o Out on the open sea, he'll just take over from your current helm settings: if you were going straight when you left the helm, he'll keep going straight until he hits Hawaii - or (occasionally) a rockpile along the coastline. If you were turning, he'll keep with it, running in circles forever. And he hasn't the foggiest idea of how to evade boats or other obstacles in the water.

The up side is that he does recognize a few commands, and executes those fairly reliably. To issue orders from one of the other stations, use the following keys:

- F4 Reverse Direction or, in simple language, turn around
- F5 Branch Left at the upcoming river mouth or fork
- F6 Branch Right at the upcoming river mouth or fork
- F7 Slow Down (he'll let you know when you've slowed to a stop)
- F8 Speed Up (he'll tell you when you've reached maximum speed).

The Gunners' Stations

The pilot is supported by a crew of three gunners, who operate all the artillery on the boat. Depending on the situation, you can move to any of the the three gunners' stations and take matters into your own hands; or you can rely on the computerized gunners to help carry the battle. To reach the three stations, press:

Page 33 follows:

- V Bow (front) Gunner's Station
- B Midship Gunners Station
- N Stern (rear) Gunner's Station

The three gunners' stations use identical commands, and are equipped with a similar collection of gauges and indicators.

Keyboard Commands

Use the following commands to control the guns and spotlights at each station.

- F1 Power On - Turns on the gun's main power supply
- F2 Gun Safety On/Off - Releases or sets the gun's safety mechanism. The safety must be turned off before you can fire. Generally, you can turn it off at the beginning of the mission, and leave it off for the duration.
- F3 Spotlight On/Off - Each gunner's station is equipped with a bright spotlight. This toggle switch turns the light on and off. The spotlight is attached to the gun, and moves with the gun in response to your joystick or arrow key commands.

The spotlights can be helpful at night, but old-timers suggest that you use them carefully, because they can attract a lot of unwanted attention from enemy forces who otherwise may not have spotted you.

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- F9 Identify Target - Gives you a positive ID on any potential target that's directly in your line of fire.
- F10 Open Fire/Cease Fire at Other Stations - Opens fire at all gunner's stations except the one you're at. The other two

gunners continue to scan for targets and shoot until you press F10 again to cease fire. The computerized gunners don't fire the mortar launcher.

Joystick/Arrow Keys

Aim Gun - Move the joystick or press the arrow keys to aim the gun at the target. If the spotlight is on, these commands aim it as well.

Enter/Fire Button

Open Fire - The burst of fire continues for as long as you hold down the key.

- Slew Rate - This three-way toggle controls how fast the gun turns in response to your joystick or arrow key commands. Press the minus key once to make slow turns, a second time to make slower turns, and a third time to speed up again. The Slew Rate knob on your control panel shows the current slew rate setting.

Page 35 follows:

Gauges & Indicators

Each gunner's station comes equipped with a small selection of gauges and indicator lights:

Compass - Just like the compass on the pilot's station, but this one shows the direction your gun is pointing. This is really useful if you've been moving around the boat a lot, and are getting disoriented.

Slew Rate - The Slew Rate is discussed in the Keyboard Command section just above. This knob shows which of the three Slew Rate settings you're currently using.

Time Compression - This gauge shows which of the three time compression settings you're currently using.

Power On/Off - When this light is on, so you're gun's main power. When it goes off, your gun is dead.

Safety On/Off - When this light is green, the gun's safety is off, and it's ready to fire. Red means that the safety is on. Press F2 to turn it off.

Spotlights On/Off - If the green light is blazing, so is this station's spotlight. The light turns red when your spotlight is off or has been damaged beyond use.

About the Bow Gunner

The front gun turret offers the best view on the entire PBR, and you may find yourself spending most of your time up here. After all, in most situations, you're the first to spot danger ahead, and the first to fire on it. It's also the only station equipped with two guns, instead of just one.

The Bow Guns rotate a complete 270 degrees, so you can fire on just about anything except the boat's cabin behind you. You can outfit

the Bow Gunner's station with a pair of .50 cal M2HB machine guns, or a M134 Minigun. To find out more about these weapons, turn to the discussion of Armament in Section 4.

Page 36 follows:

About the Midship Gunner

The engineman/midship gunner stands on a steel platform high atop the engines, just behind the PBR's cabin. Your gun rotate: in a full 270-degree sweep that takes in the sides and rear of the boat but, like the bow gunner's station, you can't turn the guns around to fire on your own cabin. Also (to the relief of the stern gunner, who stands just below you on the fantail), the gun can't be lowered far enough to fire on the stern gunner's station.

The Midship Gunner's Station can be equipped with an M129 automatic grenade launcher, or an M60D .30 caliber machine gun. Both these guns were used in Vietnam, and both are still used on U.S. PBRs today. For a detailed description of each, turn to the Armament list in Section 4.

About the Stern Gunner

The Stern Gunner is located low down in the PBR's fantail - so low, in fact, that when the boat's underway, he stands almost even with the water. (In Gunboat, you might notice that the boat's stern rises up out of the water slightly as the boat accelerates.) Like the midship gun, the stern gun rotates 270 degrees around the sides and back of the boat. You can't turn it around far enough to fire on the cabin or the midship gunner.

The Stern Gunner can be equipped with one M2HB .50 caliber machine gun; an M60D .30 caliber gun; or a 60mm mortar that's your best bet for bunkers and bridges. Specific information on each of these guns is provided in Section 4.

About the Computer Gunners

Because there are three gunners' stations - and only one of you - a team of computerized gunners takes control of the stations you're not currently occupying. The computerized gunners respond to just one command: F10, the order to open or cease fire. They operate according to some very specific rules:

Page 37 follows:

- for o When the Open Fire order is in effect, the gunners scan enemy targets, and shoot same without any action on your part. They continue to search and destroy enemy targets until you press F10 again, ordering them to cease fire.
- keeps o Computer gunners won't fire on friendly targets, which you out of a lot of trouble.
- o They also don't fire the mortar launcher. You're on your own with that one.

o Though they're very supportive and reliable, remember that the computerized gunners generally aren't as accurate as you are. If you're in a tricky situation and want the job done right, it's probably best to move in and do it yourself.

A message at the top of the screen notifies you when one of four gunners is wounded. When a gunner is killed, you no longer have access to his weapon. If you were at that gunner's station when he took the fatal hit, the Damage Report Screen immediately appears in front of you.

When the Mission Ends

Missions can end in one of three ways:

o You achieve your mission objective
o Your entire crew is killed and your boat is destroyed
o You decide to abandon the mission in the middle, and go watch Apocalypse Now.

In any of these three cases, press Tab to return to base. The Admiral issues a mission report that evaluates your effort, and summarizes your career status to date.

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Section 4 PBR Reference Section

PBR Technical Specifications & Development History

The PBR (Patrol Boat, River) is a military adaptation of a commercial boat originally designed and manufactured by United Boatbuilders of Bellingham, WA. Over the past 25 years, the U.S. Navy has commissioned three generations of the PBR:

PBR Mark 1 (1966)

Length: 31'

Maximum Width: 11 feet

Top Speed: 28 knots

Engine: 215hp General Motors diesel truck engine; Jacuzzi water jet propulsion pump.

Draft: 18" fully loaded

Crew: Four

Radar: Raytheon 1900/W surface-scanning unit

Cost; \$75,000 (in 1966 dollars)

As the first U.S.-made PBR, the 120 Mark I boats delivered in 1966

formed the foundation of the U.S. Navy's forces in the Mekong Delta. It was smaller and slower than its successors, but proved the viability of riverine warfare beyond a doubt. Its twin 215-horsepower diesel engines are included as an option in the Gunboat simulation.

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PBR Mark II (1967)

Slightly longer and more powerful than the Mark I. The protective aluminum gunwales on the Mark II's hull were a major improvement over the Mark I, which was annoyingly prone to being sliced open whenever it made hard contact with rocks, underwater obstacles, or other boats.

Over 130 Mark II PBRs were sent to Vietnam between 1967 and 1969.

PBR Mark III (1976)

The viciously powerful post-war version of the PBR, the Mark III is the

Navy's most current riverine craft. The engines - 450-horsepower monsters with a maximum speed of nearly 50 knots - put out enough power to give a hydrofoil a fair race in open water. In addition, the Mark III is more maneuverable than anything you'll find in Road & Track. You can brake down from top speed to a dead stop, or complete a 180-degree turn, in just a single boat length. On the down side, though, it's somewhat noisier than its predecessors, which means your engine choice often comes down to a question of speed over stealth.

In 1978, the PBR Mark III cost about \$500,000, minus guns.

Over the years, the term PBR (Patrol Boat, River) has described a wide variety of boat types that were outfitted to perform the same function. The PBR in Gunboat fits the Mark II and Mark III specifications described above, but can be equipped with weapons and engines that saw use on the Mark I.

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The Brown Water Navy: an Overview of American PBR Warfare

Throughout its 200-year history, the U.S. Navy has focused on big boats - enormous ocean-going vessels with tremendous range and firepower; free-floating cities capable of supporting vast military operations by sea, land, and air. Because of this emphasis on dominating the world's oceans, the Navy arrived in Vietnam with only one previous experiment in small-craft riverine warfare: a fleet of tiny boats that had patrolled the coastlines and rivers of Dixie a hundred years earlier, during the American Civil War.

Made for the Mekong

The beginnings of modern riverine warfare can be traced back to French colonial forces who occupied Vietnam during the early 1950s - and to the Vietnamese themselves, who had used the waterways of the Mekong Delta as major highways (and, on occasion, battlegrounds) for centuries.

In 1953, the French designed the first prototypical PBR-type warboats specifically for use on Vietnam's endless riverways, and introduced

them as the core of a new Vietnamese Navy that was specially geared toward riverine combat. (Only later did the French officers in charge add a fleet of ocean-going ships.) In 1955, the French turned full control of the colonial navy over to the Diem government.

That same year, the first American naval advisors arrived in Vietnam, and immediately grasped the tremendous strategic potential of the Vietnamese Navy's riverine fleet. When the Gulf of Tonkin resolution was passed in 1964, the naval advisors seized the chance to quickly upgrade the fleet with faster, quieter, newer, more heavily armored boats, which would enable them to secure the critical Mekong Delta region. From here, the U.S. and South Vietnamese could dominate all of Vietnam.

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To save time and money, the Navy bypassed the usual development process, and went shopping for an existing commercial boat that might do the job. At United Boatbuilders of Bellingham, WA, they found what they were looking for: a slick little jetdriven cutter with a big GM-built engine, and no propellers to get tangled up in sandbars and seaweed. A military contract was issued in 1965, and by March 1966 the first 120 PBR Mark I boats arrived in Vietnam.

The Brown Water War

The American-made PBR was far faster and more powerful than the earlier generations of riverine craft, and the first U.S. PBR crews found themselves literally writing the book on a whole new type of combat. Every day demanded that they invent new tactics; every season over the next four years saw further evolution and refinement of their strategies and skills.

Over the course of the war, "Brown Water Navy" missions fell into three classes:

- o interdicting Viet Cong supply lines along the Vietnamese coast;
- o flushing out NVA guerillas who infiltrated the inland Delta waters (this was especially critical - and tremendously effective - during the 1968 Tet Offensive);
- o and working in convoy with armored troop carriers and other boats on strike force missions throughout the Mekong region.

In the early years of the conflict, PBRs weren't based at onshore docks or harbors. Instead, they were attached to and serviced by LST (Landing Ship Tank) vessels, which were anchored offshore. The crews lived on these ships, the PBRs were supplied and maintained by them, and every mission began and ended there. LSTs would stay at anchor for about six

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The Brown Water War (continued)

months, providing a floating command base for PBR units, before

returning to their own home bases in Japan, Singapore, or the Philippines. Later in the war, as the U.S. established harbors and bases in the Mekong, PBR support facilities were moved onshore.

The PBR's size, stealth, and speed inspired its crews to invent some rather imaginative uses for their craft:

- o On night missions, the crew would cut the engines completely and drift with the current (or wait at anchor in a secluded area), silently biding time, watching. A nearby enemy unit settling in for the night would abruptly find themselves rudely awakened by blinding spotlights as one or two PBRs suddenly materialized out of the jungle darkness with all guns spirting out a rain of fire.
- o In early 1969, the Navy used giant CH-54 Flying Crane helicopters to airlift PBRs into isolated battlezones that were unreachable by waterway. Their appearance in these inaccessible areas took the Viet Cong by tremendous surprise - an advantage that the PBR units usually turned into decisive victory.
- o And no, the onscreen reference to waterskiing isn't just a fantasy. Jim Mesko, who has written extensively about Vietnam PBR units, notes: "In reality, PBR patrols were just like any other military operation - long, tedious, boring days that were sometimes punctuated by minutes of sheer terror." During those long, tedious, unbearably hot and humid days on the Mekong, American PBR crews actually did haul out the ropes and skis, and perfected their wake-hopping techniques during a little spontaneous R & R. With its powerful jets and tremendous speed, the PBR was a world-class water ski boat.

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Because of their unique role and the singular nature of their missions, the riverine brigades were the only Navy forces who wore jungle-green camouflage fatigues (instead of navy white & blue) as their daily uniform. Within the Navy, the PBR units earned a distinguished reputation as an elite force that never, throughout the entire war, failed to achieve a mission objective.

Modern Times

The U.S. military's policy of Vietnamization literally changed the face of the PBR crews in the late 1960s. One by one, over a period of months, U.S. Navy crew members trained their Vietnamese counterparts to take over control of the boats. When U.S. forces invaded Cambodia in 1970, the Mekong route into Phnom Penh was opened by PBR units that were over 80% Vietnamese. In the closing years of the war, ownership of the boats passed into the hands of the Vietnamese Navy. And, no doubt, some of those original patrol boats - now over 25 years old - cruise the Mekong Delta to this day.

Back home again, the Navy moved forward. In Vietnam, their PBR units had made history as one of the most successful and effective fighting forces in the entire U.S. military. In recognition of the PBR's strategic value, the Navy established two permanent riverine fleets. In 1976, the Navy commissioned the modern PBR Mark III a slightly

longer version of the Vietnam-era PBR, with General Motors 450-horsepower engines that are nearly twice as fast as their predecessors. By 1980, the Mark III could be found in the navies of Iran, Sri Lanka, Syria, Cambodia and the Philippines....and throughout the waters of northern San Francisco Bay and the sloughs of the Sacramento River Delta, where new crews come and take their lessons from the pioneering vets of the Mekong's brown water war.

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Armament

When selecting weaponry for your PBR, take into account the type of targets you're likely to encounter; and the kind of range, firepower, and accuracy you'll need in order to complete your mission. Your choices include:

M2HB Browning .50 Caliber Heavy Machine Gun

Fire Rate: 600 rounds per minute

Effective Range: 1996 yards

Ammunition: .50 cal armor-piercing incendiary (API) rounds

This hefty gun has been in widespread use since the end of World War I, and was standard equipment on PBRs in Vietnam. After 70 years, it's still a mainstay of the U.S. armed forces and 29 other armies around the world. It's your best choice for stopping onshore light armor and unarmored boats - though somewhat less effective against infantry, due to its slow rate of fire. (Besides, firing API rounds at human beings brings new meaning to the concept of overkill.)

GE M434 Minigun

Fire Rate: 2000 to 6000 rounds per minute

Effective Range: 1250 yards

Ammunition: .30 cal bullets

The six rotating barrels on this small Gatling gun can churn out a rain of bullets so devastating that the Vietnamese poetically named it "The Muttering Death". Among the aircraft and PBR crews who use it, it's simply called the "Six Pack". Because of its efficiency as an anti-infantry weapon, it was installed on the PBRs recently sent to Panama.

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Though it can create some interesting holes in unarmored vehicles and buildings, the Minigun's high rate of sustained fire is most useful for mowing down bad guy and tents - making it the best choice for missions in which you expect to encounter mostly infantry.

M60D 7.62mm General Purpose Machine Gun

Fire Rate: 550 rounds per minute

Effective Range: 984 yards

Ammunition: .30 caliber bullets

The M60 has been the standard U.S. military machine gun for the past 30 years, and saw heavy use in Vietnam. This version has been specially adapted for use as a pintle-mounted gun on helicopters, armored vehicles, and riverine craft. Belt-fed and gas-powered, the M60 is intended to be used against infantry, light boats, and unarmored targets. (Don't bother firing it at bunkers or houses.)

M1 29 Automatic Grenade Launcher

Fire Rate: 230 to 450 rounds per minute

Effective Range: 1875 yards if you're not moving: about 400 yards if you are.

Ammunition: 40mm grenades

The M129 was originally designed to be mounted on helicopters, but was later adapted for use by ground forces, tanks, and riverine craft as well. You can't keep up the burst very long - but then again, you probably won't have to: small boats, unfortified buildings, and unarmored vehicles will probably be rendered useless by just one well-placed grenade and anyone unlucky enough to be within 10 yards when one detonates probably won't live to tell about it. It's the best thing going for medium-scale deforestation, turning huts and sampans into piles of straw, and even flattening small villages (if you're up for the nasty court martial that's likely to follow).

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M129 Automatic Grenade Launcher (continued)

On the other hand, the launcher is hard to aim, and the grenades don't pack quite enough juice to do much damage to structures like bridges or bunkers, so don't waste time and ammo trying.

M224 60mm Mortar Launcher

Fire Rate: Launches one HE bomb at a time

Effective Range: Approximately 1900 yards

Ammunition: M720 high explosive (HE) bombs

This isn't used any more, but it was common equipment in Vietnam. The M224 is the heaviest artillery in the Gunboat arsenal, and your only serious choice against bridges, docks, concrete fortifications, and onshore armor. Be sure to aim the launcher carefully, and slow down as much as possible before firing - the vibration and movement of the boat can really cut down on the mortar's accuracy. The M224's extremely slow rate of fire makes it useless in ambushes, unless you're in a fortified position; and it lacks the finesse needed to be very effective against tiny, slow-moving infantry targets.

Tactics

The first U.S. riverine crews arrived in Vietnam without so much as a book to go by. You don't have to. Here are some tactics, tips, and assorted odd thoughts on making the most of your PBR:

For Pilots

- o Full-throttle is the only way to fly if you're trying to get somewhere - or get away from something - very fast. But most of the time, PBR crews prefer to mosey along at a leisurely pace, with plenty of time to scout the banks and choose their course.

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- o If you keep your speed low (below half throttle), the enemy is much less likely to hear you - the better for sneaking up on targets. Opening the throttle over the halfway mark makes you a great deal easier to find.
- o If you approach a target head-on, your bow gunner is the only crew member that can get a clear shot at it. Since everyone wants to get into the act, try to angle in on a target, go your midship and stern gunners get the chance to use their firepower.
- o PBRs are very light, and draw almost no water - attributes which make them terrific on smooth, shallow rivers, but about the last boat you'd want to take into rough water or high seas. Bear this in mind, and exercise extreme caution when you're out in open water.
- o Beware of submerged rocks, roots, and sandbars whenever you approach the shore. They can hang you up, bog you down, or damage the boat. The radar screen sometimes provides clues as to their location, but your best defense is to slow down and ease up to the shore.
- o Recognize the limitations of your computerized pilot. When you're under fire from a fort, are speeding through a canyon, or find yourself in any situation that requires a steady, quick hand on the helm, switch to the driver's station. For one thing, you're no doubt better at evasive driving, avoiding traffic, and making it through a slalom course of mines. For another, he has an annoying tendency to panic under fire and ram the PBR into things like canyon walls or other boats.
- o Hitting the shoreline or running aground can do more damage to your boat than a bunker's worth of hostile infantry:

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For Pilots (continued)

- o You can do serious damage to your water jets. If just one of the jets gets skewed, your PBR can persistently veer left or right for the rest of the mission.

- o If both jets get mangled, you're in for a slow, wobbly ride.
- o If you hit a rock or cliff, you risk putting a hole in your hull. In these cases, your flak jacket does not do double duty as a flotation device.
- o Use the Backspace or = (equals) keys to turn on the time compression and zip through stretches of friendly or barren territory. Use them until you get shot at, or reach something you want to inspect more closely. One caution: enemy thinking processes also speed up when you use time compression, so turn it off immediately when you discover enemies about.

For Gunners

- o None of the guns on your PBR come equipped with stabilizers. Your aim is cleanest when the boat is stopped, moving slowly, or maintaining an even speed over smooth water; and your chances decrease drastically in rough water, or at high speeds. In order to get the most accurate identification of a target, slow the boat down - especially if you're in choppy water.
- o In most cases, it's easiest to aim using the middle slew rate setting. To refine your aim, slow the slew rate down to the lower setting.
- o When the boat is rapidly turning, suddenly speeding up, or abruptly slowing down, it's prone to tilt, which can throw off your aim. Be aware of this, and try to compensate. If possible, ask the pilot to slow down, and don't issue Slow Down or Speed Up commands while aiming at targets.

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- o If the target's moving, don't aim at where it is - aim at where it will be a few seconds from now, when your shell catches up with it. The amount of lead time depends your range, your fire rate, and how fast the boat is moving relative the target. If you try to hit a target that's out of your gun's range, you'll probably miss.
- o Shoot your guns in short bursts. This gives you time between bursts to check and make sure you're actually hitting something.
- o The front gunner's station is probably the best seat in the house. You're the first to see trouble ahead, and the first to respond to it.
- o The spotlights are great for finding your way around at night - but they also advertise your position to enemy. Instead of risking exposure, press F9 to identify targets in the dark.
- o Keep an eye on the computerized pilot, and anticipate upcoming river forks. Remember, if you don't press F5 (branch left) or F6 (branch right), he'll decide for himself which fork to take, and

the next thing you know, you'll be sending the Admiral postcards from Caracas.

- o There's a right way to mount a bridge assault - and a wrong one. The wrong way is to blast away at the midspan, creating a small gap that the enemy can patch up in less than a week. The right way is to aim at the supports on either end, effectively undermining the structure of the entire bridge.

- o It is extremely difficult to get a clean mortar hit at a bridge foundation. Practice, and don't give up on your assault too soon.

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For Gunners (continued)

- o Every gunner's station has a different 180-degree field of view. It's disturbingly easy to get yourself turned around as you switch from station to station, especially if the boat's taking some fast turns. If you're feeling dizzy, refer to the Mission Map frequently to make sure you're still heading the right direction.

- o It's hard to aim anything very accurately on a fast-moving boat. In situations where you can't do the job with a sharpshooter's finesse, make up for it with raw, unleashed power. Your ammo is unlimited, so it costs you nothing to spray your guns back and forth over the targets and mow `em down - just like in the gangster movies.

- o When the Good Shot! message appears at the top of the screen, remember that you're not the only crew member aboard - and the comment could be intended for someone else.

Know Your Enemy

You may encounter scores of different target types on your various Gunboat missions. We've compiled this list to familiarize you with some of the more common enemy resources.

Vietnam

The Vietnamese scenarios reflect the war as it was in 1970, and the equipment you encounter there is the similar to what the original riverine units faced during those days. Among the unfriendlies you'll meet:

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PT76 Tank

A light, thinly-armored Soviet-made reconnaissance tank. Watch out for the 76mm guns, and the infantry units that are usually part of the cargo.

T55 Tank

A Soviet World War II dinosaur with stubbornly thick armor and a wicked 100mm gun. Nothing to do but turn tail and run, or grit your teeth and lean on the throttle - you don't have the armament to deal with it.

BTR 60/BTR 70

Another Soviet export: a fast light-armor infantry carrier, equipped with a .50cal machine gun and a 30mm grenade launcher. Nail it with .50 caliber rounds - before it nails you.

RPG7

This Soviet missile launcher isn't as deadly to boats as it is to tanks - though will still put a hole in your aluminum hull. Shoot down the missile if you can; then take out the launcher before it can fire another one.

Machine gun nests

These are basically sandbag piles. Use .50cal guns or grenades.

Bridges

You'll encounter a wide assortment of bridges. All of them can be taken down with your mortar launcher and enough persistence.

Sampans

The natives make these boats out of reeds. Everyone in Vietnam used them, including civilians and the U.S. forces, so you should be extra careful about firing on the right ones. (Blowing up old ladies on the way to market is a good way to get courtmartialed; blowing up your own troops is an even better one.)

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Infantry

VC infantry wear either fatigues or the standard-issue black pajamas. Be sure to get a good ID before blazing away at them.

Trees

Green, leafy stationary targets. You don't get points for blowing them up.

Docks

Used by both us and them, and the civilians as well. Like bridges and sampans, don't blow one up without good ID - or good reason.

Your mortar launcher is your best bet.

Water Buffalo

Hamburgers, anyone?

Colombia

The Colombia scenarios represent an escalation of the current American war on drugs. You're going up the tropical rivers to clean out drug refineries, chemical storage dumps, docks, and fortified strongholds of the Medellin Cartel. One thing here that you won't find elsewhere: some of the enemy armament you'll come up against is American-made. Even at black-market prices, these high rollers can afford the best.

M48 Tank

The good old Made-In-America World War II-vintage Patton tank working here for the Other Side. Lucky commanders can get away with lobbing mortars at it. Smart ones just get away.

Huey Gunship

A big old lumbering U.S. battle chopper outfitted .30 and .50 caliber guns - and sometimes, TOW-2 wire-guided missiles. Your .50 caliber gun should be enough to swat it out of the sky.

Page 53 follows:

Pickup Truck

Could be Juan Valdez hauling his mountain-grown coffee beans into town. Or, it could be a small arsenal-on-wheels, complete with TOW-2 launchers and machine guns of varying sizes in the back. If it's the latter, take it out with your .50 caliber gun or grenade launcher.

PT 76 Tank

Light, thinly-armored Soviet-made reconnaissance tanks. Watch out for their 76mm guns, and the infantry units that are usually part of the cargo. Use your .50 caliber guns.

BTR 60/BTR 70

Another Soviet export: a fast light-armor infantry carrier, equipped with a .50 cal machine gun and a 30mm grenade launcher. Nail it with .50 caliber rounds - before it nails you.

Power Boats

Flashy, fast small and medium-sized power boats. They're usually bristling with small arms. Like any unarmored vehicle, it's vulnerable to your .50 caliber gun or your grenade launcher

Huts

Colombian huts tend to be more substantial than Vietnamese hooches - and require more substantial ammo. But they don't last long in a rain of grenade fire.

Machine Gun Nests

Your basic stack of sandbags. Use the .50 caliber gun or the grenade launcher.

Mortar Nests

A sturdy sandbag structure that's reinforced with tree trunks. It houses a single mortar launcher. In this case, fight fire with fire, and go for your own mortar.

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Enemy Fortification

A solid brick building that probably contains a large salvo of

mortars, and possibly other heavy armament as well. Defensive driving is your best bet when caught in a hail of fire from one of these fortifications. Generally, the shells tend to fall in an identifiable pattern. A sharp pilot who discerns the pattern can anticipate and evade incoming fire, ensuring that the PBR comes through in one piece.

Mercenaries

Infantry by any other name. Deal with them accordingly.

Panama

The Soviets supply most of the armament you'll see in Panama; until very recently, they were a more reliable source of spare parts.

T62A

A widely-exported Soviet tank with heavy armor and big guns. Not modern, but formidable. Don't even try to stop them.

PT 76 Tank

A light, thinly-armored Soviet-made reconnaissance tank. Watch out for the 76mm guns, and the infantry units that are usually part of the cargo. The thin armor won't stop your .50 caliber shells.

BTR 60/BTR 70

Another Soviet export: a fast light-armor infantry carrier, equipped with a .50 caliber machine gun and a 30mm grenade launcher. Nail it with .50 caliber rounds - before it nails you.

Page 55 follows:

Radar Installation

Think of it as a sitting duck. It's huge, stationary, extremely visible (that big dish can be seen for miles), and vital to the enemy. It's also very vulnerable to fire from your .50 caliber gun, if you can get within range.

Anti-Ship Missiles

Positioned to keep the Panama Canal clear of unwelcome traffic, this one means double trouble for you. The airborne missile can wipe you out in mere seconds, unless you slow down, take careful aim with your .50 caliber, and shoot it out of the sky before it reaches the boat. Even if you succeed, the launcher can instantly lob another one at you

- so don't hesitate to destroy the launcher, too.

Mi-24 Hind Helicopter

In the Canal Zone, these Soviet-made choppers are thicker than mosquitos, and even more annoying. They carry lots of AT-6 Spiral missiles, which they will gleefully hurl at you. On the other hand, they're not the most maneuverable of beasts, so it's not impossible to take out a low-flying Hind with your .50 caliber machine gun.

Power Boats

Flashy, fast small and medium-sized power boats. They're usually

bristling with small arms. Sink them with your trusty .5G caliber machine gun.

Trucks/Buildingsd/Infantry

Ubiquitous targets. If you can't handle these by the time you get to Panama, you don't deserve your stripes.

Statuary

Sorry - there are no bonus points for defacing local monuments.

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Section 5: Troubleshooting

If you have any questions about Gunboat, and you can't find the answers in the manual, our Customer Support folks can help. You can call us at 408-296-8400 between 9 AM and 5 PM Pacific Time, or write to Accolade Customer Support, 550 S. Winchester Blvd., San Jose, CA 95128. Be sure to have your computer handy when you call, and have the following information: your computer's brand and model, its memory and what peripherals are attached.

GUNBOAT

COMMAND CHART

"Go To Station" Commands

Pilot's port (Left Station).....	Z
Pilot's Main Station.....	X
Pilot's Starboard (Right) Station.....	C
Bow (Front) Gunner's Station.....	V
Midship Gunner's Station.....	B
Stern (Rear) Gunner's Station.....	N

While In a Pilot's Station

Power On/Off.....	F1
Engines On/Off.....	F2
Radar On/Off.....	F3
Steering Slew Rate: Hi/Med/Low.....	-
Throttle Forward.....	Up Arrow
Throttle Back.....	Down Arrow
Slow Down.....	Enter
Rotate Water Jets Left.....	Left Arrow
Rotate Water Jets Right.....	Right Arrow
Identify Target.....	F9
"Gunners, Open Fire/Cease Fire".....	F10
Detail Level: Low/Hi.....	D

While In a Gunner's Station

Power On/Off.....	F1
Gun's Safety On/Off.....	F2
Spotlight On/Off.....	F3
Aim Slew Rate: Hi/Med/Low.....	-
Aim.....	Up Arrow, Down Arrow,
	Left Arrow and Right Arrow
Fire.....	Enter
"Pilot, Reverse Course".....	F4

"Pilot, Branch Left".....	F5
"Pilot, Branch Right".....	F6
"Pilot, Go Slower".....	F7
"Pilot, Go Faster".....	F8
Identify Target.....	F9
"Gunners, Open Fire/Cease Fire".....	F10
Detail Level: Low/Hi.....	D

General Game Commands

Engine Sound On/Off.....	E
Sounds On/Off.....	S
Pause Game.....	ESC
Return To Base.....	TAB
Exit To DOS.....	CTRL + Q
Time Compression Off/On/Hi.....	=
Time Compression While Pressed.....	Backspace

Mission Information

View Map.....	M
Chase Boat View.....	,
View Assignment.....	.
View Damage.....	/